



SVT20120U

EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage

120 V

Current

20 A

TO-277

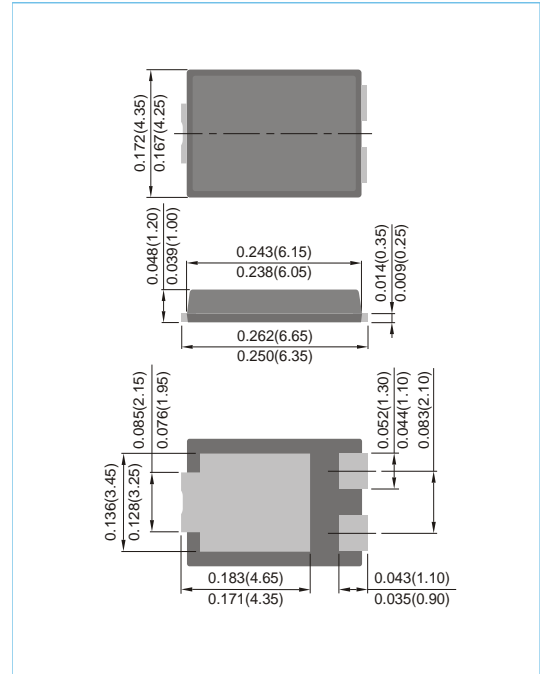
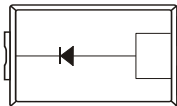
Unit : inch(mm)

Features

- Ideal for automated placement
- Extreme low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Ultra thin profile package for space constrained utilization
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

Mechanical Data

- Case: TO-277 package
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.00379 ounces, 0.1073 grams.
- Marking: Part number



Maximum Ratings And Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNIT |
|-------------------------------------------------------------------------------------|--------------------------|-------------|----------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 120 | V |
| Maximum rms voltage | V_{RMS} | 84 | V |
| Maximum dc blocking voltage | V_R | 120 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 20 | A |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 250 | A |
| Typical thermal resistance | (Note 1) $R_{\theta JA}$ | 110 | $^{\circ}\text{C/W}$ |
| | (Note 2) $R_{\theta JC}$ | 3 | |
| Operating junction temperature range | T_J | -55 to +150 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | $^{\circ}\text{C}$ |

Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

2. Mounted on a 10cm*10cm*1mm copper pad area



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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | | MIN. | TYP. | MAX. | UNITS |
|-------------------------------|----------|--------------------|---------------------------|------|------|------|---------------|
| Breakdown voltage | V_{BR} | $I_R=0.5\text{mA}$ | $T_J=25^{\circ}\text{C}$ | 120 | - | - | V |
| Instantaneous forward voltage | V_F | $I_F=1\text{A}$ | $T_J=25^{\circ}\text{C}$ | - | 0.43 | - | V |
| | | $I_F=5\text{A}$ | | - | 0.57 | - | |
| | | $I_F=20\text{A}$ | | - | 0.74 | 0.79 | |
| | | $I_F=1\text{A}$ | $T_J=125^{\circ}\text{C}$ | - | 0.32 | - | V |
| $I_F=5\text{A}$ | - | 0.47 | | - | | | |
| Reverse current | I_R | $V_R=96\text{V}$ | $T_J=25^{\circ}\text{C}$ | - | 5 | - | μA |
| | | $V_R=120\text{V}$ | $T_J=25^{\circ}\text{C}$ | - | - | 35 | μA |
| | | | $T_J=125^{\circ}\text{C}$ | - | 10 | - | mA |



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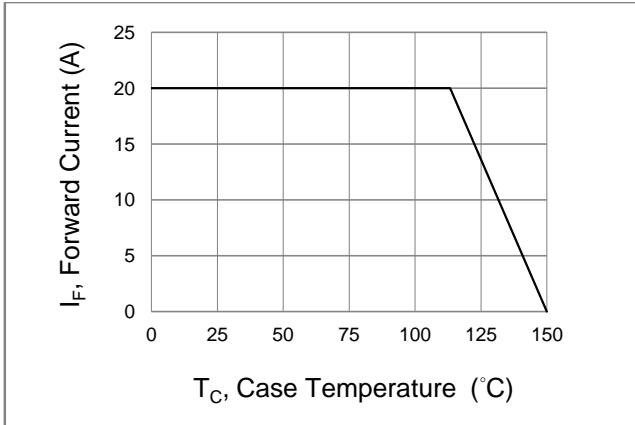


Fig.1 Forward Current Derating Curve

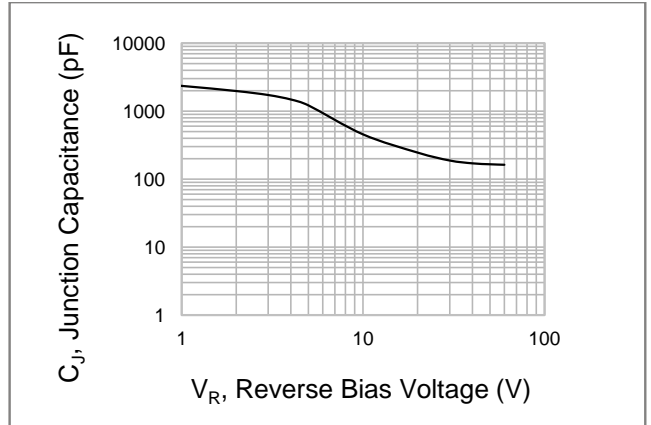


Fig.2 Typical Junction Capacitance

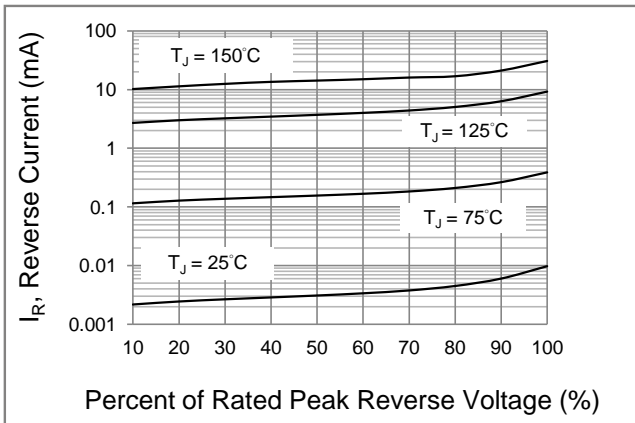


Fig.3 Typical Reverse Characteristics

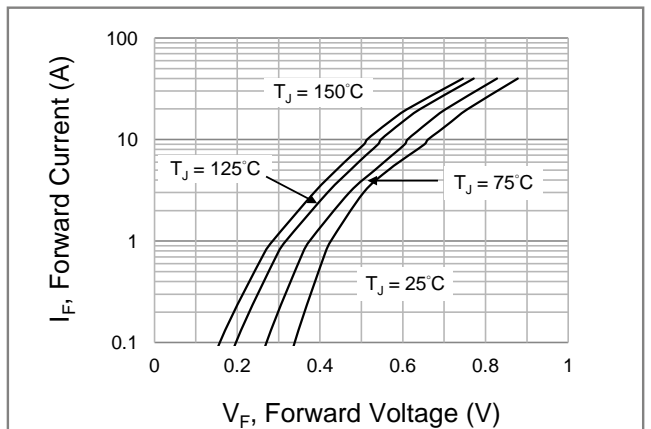


Fig.4 Typical Forward Characteristics

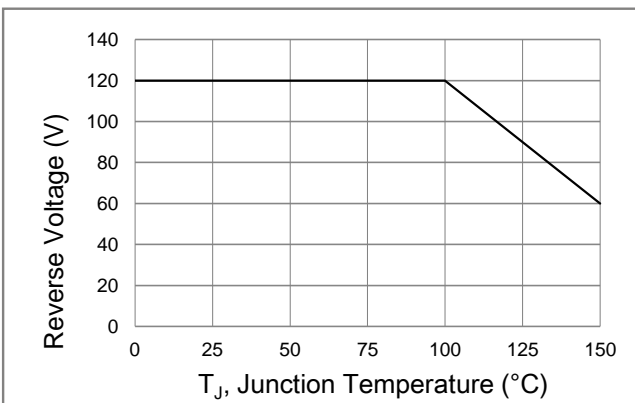
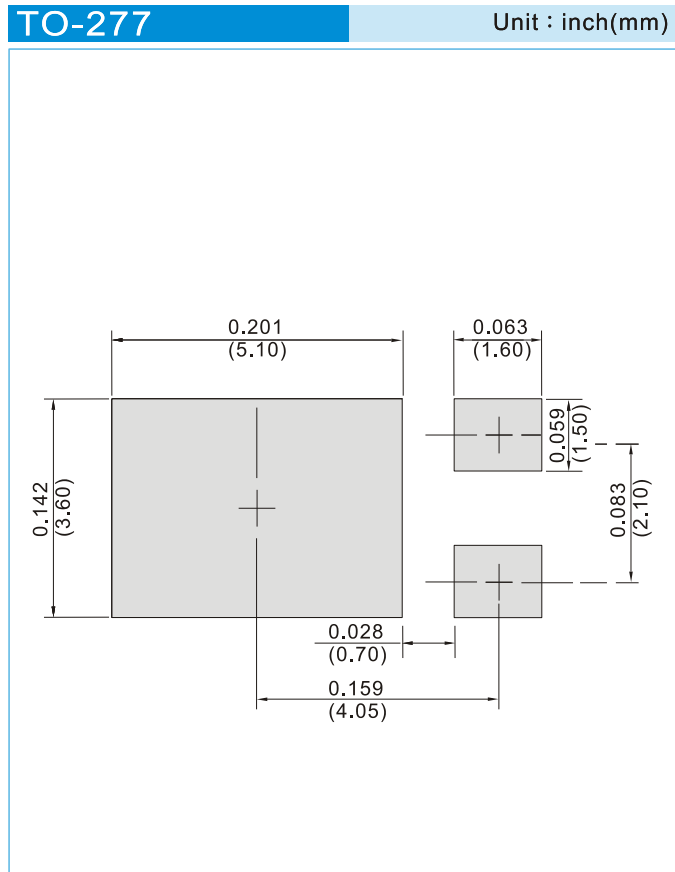


Fig.5 Operating Temperature Derating Curve



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R – 5K per 13" plastic Reel



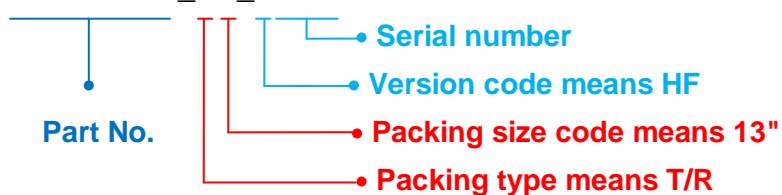
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Part No_packing code_Version

SVT20120U_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd -5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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